Abstract

The invention relates to a method of automatic fault detection by crack detection by the dye penetrant method, whereas workpieces for the dye penetrant test being treated with penetrant containing dye, so that the dye concentrates at surface faults and, after a predetermined development period, being recorded by at least one image recording device and the recordings being evaluated with regard to faults in an image processing unit by scanning and detecting areas with a concentration of dye, faults being evaluated and corresponding signals are output, by making recordings of the same workpiece at at least two times (t1, t2) following the treatment with penetrating agent, optionally development and obtaining at least two recordings (A1, A2), comparing the recordings (A1, A2) produced at the different times (t1, t2) and evaluating the comparison by means of the evaluation logic of the image processing unit, and outputting signals, by means of the evaluation logic, which represent those changes in the penetrating agent concentration over the time period (Δ t1, t2) in corresponding areas on the recordings which lie above a change threshold for a reference time difference; and assessing the measured workpiece-related parameters to produce assessment values relating to crack formation, such as good/bad information, fault size assessment by a predefined size interval or in a predefined surface area.

Fig. 2